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The Rentschler Airport Area

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UNIT SPECIFIC TECHNICAL MEMORANDUM: RENTSCHLER AIRPORT AREA PRATT & WHITNEY, EAST HARTFORD

AREA: North and South Airports

SUB-AREA: The Rentschler Airport

ENVIRONMENTAL UNIT: Rentschler Airport Runway Area

Location: The Rentschler Airport Runway Area is located to the east of the main facility south of Silver Lane, and to the north of Brewer Street (Drawing 1).

Description: The Rentschler Airport Runway Area was developed over the years and presently consists of two runways, each approximately one-mile long, running north to south and southwest to northeast.

Dates of Operation: The Rentschler Airport Runway Area was originally built in 1931, expanded over the years, and eventually closed in December 1994.

Processes: The Rentschler Airport Runway Area was used for the take-off and landing of a variety of commercial and military aircraft.

Specific Contaminants of Concern: The constituents of concern for the Rentschler Airport Runway Area are jet fuels and aviation gasoline.

Area-wide Classes of Contaminants: Jet fuels and aviation gasoline associated with inherent air traffic. Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism in the Runway Area is potential spillage which could have affected the underlying soil and groundwater; however, the likelihood of a spill is low in these areas.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Due to the potential for a release associated with this unit, a subsurface investigation to determine the degree and extent of soil contamination was performed in November 1997. Prior to 1997, two investigations were conducted in May 1993 and February 1990. Prior to 1990, no investigation had reportedly been performed.

Various supplemental groundwater investigations have also been conducted in the Rentschler Airport Area. Out of the seven monitoring wells in the immediate vicinity of the Airport Area

elevated concentrations of metals have been detected in three monitoring wells. Elevated concentrations of lead have been detected in both NA-MW-03 and NA-MW-04. Elevated concentrations of arsenic, lead, mercury, and zinc have also been detected in groundwater samples from SK-MW-08D. For a more detailed account of these sampling events refer to the LEA *Technical Memorandum 3 of Groundwater Sampling and Quality* dated March 30, 1998.

1990 through 1993 Investigations (Westinghouse and H&A):

Description: In the Rentschler Airport Area, four soil samples were collected during monitoring well installations conducted by Westinghouse in 1990. Samples were collected at SA-MW-01, SA-MW-02I (two samples), and SK-MW-08S. In total, the samples were analyzed for PCBs, VOCs, and metals by the Toxicity Characteristic Leaching Procedure (TCLP).

During the 1993 investigation two soil samples were also collected during monitoring well installations from SK-MW-16. The soil samples were analyzed for VOCs, PCBs, the RCRA 8 metals, and TPH. A summary of the samples collected and analyses performed during these two previous investigations is included in Table 1. Sampling locations are shown on Drawing 1.

Investigation Results: Only one VOC was detected in the soil sample collected from SK-MW-08S. Methylene Chloride (MC) was detected at a concentration close to the method detection limit in this sample. No other VOCs were detected in the soil samples that were submitted for laboratory analysis. One or more of the metals analyzed by TCLP were detected in one soil sample from SA-MW-02I. These metals included cadmium and lead, and were present in concentrations similar to reported concentrations of background metals present in the undeveloped land areas of the Airport/Klondike (F&O, 1994). No PCBs were detected in the soil samples submitted to the fixed laboratory during the 1990 soil investigation.

Barium, chromium, lead, nickel, and zinc were the only metals detected in the soil sample submitted to the fixed laboratory during the 1993 investigation. The reported concentrations of metals were similar to background concentrations of metals (F&O, 1994). No VOCs, PCBs, or TPH were detected in the soil samples submitted during this investigation. Concentrations of constituents detected in soil samples collected for this unit are presented in Table 2.

Data Evaluation and Conclusions: Minimal future investigations seem to be warranted in the Rentschler Airport Runway Area due to the low likelihood of a release and the lack of significant contaminant detects in the soil samples that were analyzed at the fixed laboratories.

Soil Samples taken from SA-MW-01 and SA-MW-02I are discussed in more detail in two separate Unit Specific Technical Memorandums, *Fire Training Area "B"* and the *Contractor Storage Area*, respectively.

November 1997 Investigation (LEA):

Description: During airport expansion activities conducted in 1945 fill was placed in low-lying areas of the North Airport. In order to investigate the potential for contaminated fill used in these low lying areas 39 Geoprobe® soil borings (NA-SB-63 through NA-SB-101) were advanced to a depth of 4 feet in various suspected low lying areas of the North Airport, based on historical

aerial photographs. Sampling locations are shown on Drawing 1. When visual or instrument evidence (flame ionization detector) indicated potential contamination, samples would be collected in 2-foot intervals to a depth of 16 feet or to the clay layer, which ever came first. Samples would then be screened for select VOCs in the LEA laboratory and at least one sample per boring would have been submitted for fixed laboratory analysis of VOCs, PCBs, SVOCs, TPH, and metals.

Investigation Results: Based on visual and instrument evidence no contaminated fill was encountered during this investigation. Therefore, no samples were submitted for laboratory analysis.

Data Evaluation and Conclusions: No further investigation is warranted in the Rentschler Airport Runway Area due to the low likelihood of a release, conformational laboratory analysis, and the lack of visual and instrument evidence that would have indicated that contamination was present.

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Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: Rentschler Airport Area

Page 1 of 1

Sample Information						Analysis Information								
Location ID	Sample ID	Sample Date	From (ft)	To (ft)	Class	Portable GC	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Extraction	Miscellaneous
SA-MW-01	CAS 2075090	2/13/90	7.5	9.0	SB		x				x			
SA-MW-02I	CAS11010020	2/16/90	1.0	2.0	SB								X	
SA-MW-02I	CAS11060080	2/16/90	6.0	8.0	SB		x							
SK-MW-08S	CAS10090	2/16/90	9.0		SB		X							
SK-MW-16	02165051393	5/13/93			SB		x							
SK-MW-16	02169051393	5/13/93			SB						x	X	x	X
DRAFT														

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Notes: 1. Legend: X - Analysed; at least one analyte over the detection limit; x - Analysed, no analytes in group over the detection limit
2. Printed on 03/31/98

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SA-MW-01

Location Identifier	SA-MW-01						
Sample Date	2/13/90						
Sample Identifier	CAS 2075090	From 7.5 to 9.0			Soil Boring		
Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class	
PCB 1016	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1221	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1232	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1242	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1248	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1254	ND<0010	µg/kg		NETA	NETA09002	PCBs	
PCB 1260	ND<0010	µg/kg		NETA	NETA09002	PCBs	
Benzene	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Bromoform	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Carbon Disulfide	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Carbon Tetrachloride	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Chlorobenzene	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Chlorodibromomethane	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Chloroethane	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Chloroform	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichlorobromomethane	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloroethane, 1,1-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloroethane, 1,2-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloroethylene, 1,1-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloroethylene, 1,2-trans-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloropropane, 1,2-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloropropylene, 1,3-cis-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Dichloropropylene, 1,3-trans-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Ethylbenzene	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Hexanone, 2-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Methyl Bromide	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Methyl Chloride	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Methyl Ethyl Ketone	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Methylene Chloride	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	
Methyl-2-pentanone, 4-	ND<5	µg/kg		NETA	NETA09002	Volatile Organics	

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SA-MW-01

Styrene	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Tetrachloroethane, 1,1,2,2-	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Tetrachloroethylene	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Toluene	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Trichloroethane, 1,1,1-	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Trichloroethane, 1,1,2-	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Trichloroethylene	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Vinyl Acetate	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Vinyl Chloride	ND<5	µg/kg	NETA	NETA09002	Volatile Organics
Xylenes (Total)	ND<5	µg/kg	NETA	NETA09002	Volatile Organics

Location Identifier SA-MW-02I

Sample Date 2/16/90

Sample Identifier CAS11010020

From 1.0 to 2.0

Soil Boring

Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
Arsenic	ND<0.300	mg/l		NETA	NETA09009	Metals (TCLP)
Barium	ND<0.035	mg/l		NETA	NETA09009	Metals (TCLP)
Cadmium	0.005	mg/l		NETA	NETA09009	Metals (TCLP)
Chromium	ND<0.050	mg/l		NETA	NETA09009	Metals (TCLP)
Lead	0.130	mg/l		NETA	NETA09009	Metals (TCLP)
Mercury	ND<0.002	mg/l		NETA	NETA09009	Metals (TCLP)
Selenium	ND<0.100	mg/l		NETA	NETA09009	Metals (TCLP)
Silver	ND<0.009	mg/l		NETA	NETA09009	Metals (TCLP)

Sample Identifier CAS11060080

From 6.0 to 8.0

Soil Boring

Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
Benzene	ND<5	µg/kg		NETA	NETA09015	Volatile Organics
Bromoform	ND<5	µg/kg		NETA	NETA09015	Volatile Organics
Carbon Disulfide	ND<5	µg/kg		NETA	NETA09015	Volatile Organics
Carbon Tetrachloride	ND<5	µg/kg		NETA	NETA09015	Volatile Organics
Chlorobenzene	ND<5	µg/kg		NETA	NETA09015	Volatile Organics
Chlorodibromomethane	ND<5	µg/kg		NETA	NETA09015	Volatile Organics

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SA-MW-021

Chloroethane	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Chloroform	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichlorobromomethane	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloroethane,1,1-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloroethane,1,2-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloroethylene,1,1-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloroethylene,1,2-trans-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloropropane,1,2-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloropropylene,1,3-cis-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Dichloropropylene,1,3-trans-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Ethylbenzene	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Hexanone,2-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Methyl Bromide	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Methyl Chloride	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Methyl Ethyl Ketone	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Methylene Chloride	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Methyl-2-pentanone,4-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Styrene	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Tetrachloroethane,1,1,2,2-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Tetrachloroethylene	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Toluene	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Trichloroethane,1,1,1-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Trichloroethane,1,1,2-	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Trichloroethylene	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Vinyl Acetate	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Vinyl Chloride	ND<5	µg/kg	NETA	NETA09015	Volatile Organics
Xylenes (Total)	ND<5	µg/kg	NETA	NETA09015	Volatile Organics

Location Identifier SK-MW-08S

Sample Date 2/16/90

Sample Identifier CAS10090

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At 9.0

Soil Boring

Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
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SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SK-MW-08S

Benzene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Bromoform	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Carbon Disulfide	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Carbon Tetrachloride	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Chlorobenzene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Chlorodibromomethane	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Chloroethane	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Chloroform	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichlorobromomethane	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloroethane, 1,1-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloroethane, 1,2-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloroethylene, 1,1-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloroethylene, 1,2-trans-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloropropane, 1,2-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloropropylene, 1,3-cis-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Dichloropropylene, 1,3-trans-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Ethylbenzene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Hexanone, 2-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Methyl Bromide	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Methyl Chloride	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Methyl Ethyl Ketone	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Methylene Chloride	10	µg/kg	NETA	NETA09014	Volatile Organics
Methyl-2-pentanone, 4-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Styrene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Tetrachloroethane, 1,1,2,2-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Tetrachloroethylene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Toluene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Trichloroethane, 1,1,1-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Trichloroethane, 1,1,2-	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Trichloroethylene	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Vinyl Acetate	ND<5	µg/kg	NETA	NETA09014	Volatile Organics
Vinyl Chloride	ND<5	µg/kg	NETA	NETA09014	Volatile Organics

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SK-MW-08S

Xylenes (Total) ND<5 µg/kg NETA NETA09014 Volatile Organics

Location Identifier	SK-MW-16					
Sample Date	5/13/93					
Sample Identifier	02165051393					
					Soil Boring	
Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
Benzene	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Bromoform	ND<510	µg/kg		ENS	0286960001SA	Volatile Organics
Carbon Tetrachloride	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Chlorobenzene	ND<200	µg/kg		ENS	0286960001SA	Volatile Organics
Chlorodibromomethane	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Chloroethane	ND<510	µg/kg		ENS	0286960001SA	Volatile Organics
Chloroform	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichlorobenzene,1,2-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichlorobenzene,1,3-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichlorobenzene,1,4-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichlorobromomethane	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloroethane,1,1-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloroethane,1,2-	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloroethylene,1,1-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloroethylene,1,2-	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloropropane,1,2-	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloropropylene,1,3-cis-	ND<200	µg/kg		ENS	0286960001SA	Volatile Organics
Dichloropropylene,1,3-trans-	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Ethylbenzene	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Ethylene Dibromide	ND<200	µg/kg		ENS	0286960001SA	Volatile Organics
Methyl Bromide	ND<510	µg/kg		ENS	0286960001SA	Volatile Organics
Methyl Chloride	ND<510	µg/kg		ENS	0286960001SA	Volatile Organics
Methylene Chloride	ND<510	µg/kg		ENS	0286960001SA	Volatile Organics
Tetrachloroethane,1,1,2,2-	ND<100	µg/kg		ENS	0286960001SA	Volatile Organics
Tetrachloroethylene	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics
Toluene	ND<51	µg/kg		ENS	0286960001SA	Volatile Organics

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SK-MW-16

Trichloroethane, 1,1,1-	ND<51	µg/kg	ENS	0286960001SA	Volatile Organics
Trichloroethane, 1,1,2-	ND<100	µg/kg	ENS	0286960001SA	Volatile Organics
Trichloroethylene	ND<51	µg/kg	ENS	0286960001SA	Volatile Organics
Trichloro-1,2,2-trifluoroethane, 1,1,2-	ND<100	µg/kg	ENS	0286960001SA	Volatile Organics
Vinyl Chloride	ND<100	µg/kg	ENS	0286960001SA	Volatile Organics
Xylenes (Total)	ND<51	µg/kg	ENS	0286960001SA	Volatile Organics

Sample Identifier 02169051393

Soil Boring

Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
Arsenic	ND<0.59	mg/kg		ENS	0286960002SA	Metals
Barium	13.8	mg/kg		ENS	0286960002SA	Metals
Beryllium	ND<0.23	mg/kg		ENS	0286960002SA	Metals
Cadmium	ND<0.59	mg/kg		ENS	0286960002SA	Metals
Chromium (Total)	5.6	mg/kg		ENS	0286960002SA	Metals
Lead	2.5	mg/kg		ENS	0286960002SA	Metals
Mercury	ND<0.12	mg/kg		ENS	0286960002SA	Metals
Nickel	6.4	mg/kg		ENS	0286960002SA	Metals
Selenium	ND<0.59	mg/kg		ENS	0286960002SA	Metals
Silver	ND<1.2	mg/kg		ENS	0286960002SA	Metals
Zinc	12.0	mg/kg		ENS	0286960002SA	Metals
Chromium (Total)	ND<0.010	mg/l		ENS	0290040017SA	Metals (TCLP)
Lead	ND<0.050	mg/l		ENS	0290040017SA	Metals (TCLP)
Nickel	ND<0.040	mg/l		ENS	0290040017SA	Metals (TCLP)
PCB 1016	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1221	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1232	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1242	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1248	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1254	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
PCB 1260	ND<9.7	µg/kg		ENS	0286960002SA	PCBs
Corrosivity	6.9	units		ENS	0286960002SA	Physical Analysis
Cyanide (Reactive)	ND<0.12	mg/kg		ENS	0286960002SA	Physical Analysis
Ignitability	ND<ND	deg f		ENS	0286960002SA	Physical Analysis
Sulfide (Reactive)	ND<1.2	mg/kg		ENS	0286960002SA	Physical Analysis



SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Rentschler Airport Area

Location Identifier SK-MW-16

Total Petroleum Hydrocarbons	ND<23	mg/kg	ENS	0286960002SA	Physical Analysis
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**US EPA New England
RCRA Document Management System (RDMS)
Image Target Sheet**

RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-9

**Document Title: DRAFT, UNIT-SPECIFIC TECHNICAL
MEMORANDA, SUMMARY SITE INVESTIGATION AND
REMEDATION REPORT, AIRPORT/KLONDIKE AREA,
VOLUME 1**

Date of Document: 01/01/0001

Document Type: REPORT

Purpose of Target Sheet:

☒ **Oversized** ☐ **Privileged**

☐ **Page(s) Missing** ☐ **Other** (Please Provide Purpose
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Comments:

**RENTSCHLER AIRPORT AREA LOCATION &
CONSTITUENTS DETECTED MAP**

*** Please Contact the EPA New England RCRA Records Center to View This Document ***

**UNIT SPECIFIC TECHNICAL MEMORANDUM: M.E.R.L. AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: North Klondike

SUB-AREA: M.E.R.L. Area

ENVIRONMENTAL UNITS: M.E.R.L. Explosives Forming, Control Room, Storage Building, Undesignated Building

Location: North Klondike (Suntan Area), first road south on main access road, from perimeter road (Drawing 1).

Description: The dimensions of these units are given below:

M.E.R.L. Explosives Forming – 26.5' x 34'

Control room – 12' x 15'

Storage Building – 8' x 8'

Undesignated Building – 12' x 20.5'

Presently, only the foundation remains of the above structures.

Dates of Operation: These M.E.R.L. Area units were used approximately from 1957 to 1993.

Processes: THE M.E.R.L. Explosives Forming was used for storage of various supplies and equipment, including asbestos matting and rope. The Control Room was used for jet engine testing. The Storage Building was used for material storage. The Undesignated Building was a test shed for explosives.

Specific Contaminants of Concern: The contaminants of concern of these units typically include jet fuels, cleaning solvents, and potentially asbestos in some areas

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanisms: The most likely release mechanism in the M.E.R.L. Area is potential spillage and/or leakage which could affect the underlying soil and groundwater, however, the potential impact to the environment from a release inside a building is relatively low, since any contaminant spills and/or leakage (containing VOCs, SVOCs, PCBs, Metals, and TPH) most likely would have been contained within the building.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Since any release would have most likely been contained within the buildings, no further action is warranted in these units. Two separate investigations (*Fire Training Area "D"* and the *M.E.R.L. Drywell Area*) were conducted in this area and are discussed independently

**US EPA New England
RCRA Document Management System (RDMS)
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RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

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M.E.R.L. AREA LOCATION MAP

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North Klondike:

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X-415 Area

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Tie-Down Area

Undeveloped Land Area - South Klondike

X-307 Area

**UNIT SPECIFIC TECHNICAL MEMORANDUM: UNDEVELOPED LAND -
NORTH KLONDIKE
PRATT & WHITNEY, EAST HARTFORD**

AREA: North Klondike

SUB-AREA: Undeveloped Land Area (Drawing 1)

ENVIRONMENTAL UNIT: Outside Storage Area and the Undeveloped Land Area

Location: The Outside Storage Area is located at the end of the access road, off Perimeter Road.

The Undeveloped Land is located to the north and east of the North Klondike Area.

Description: The Outside Storage Area Unit was used for storage of old and inoperable vehicles. The actual size of the storage area could not be determined.

The North Klondike Undeveloped Land Unit contains all of the land in the North Klondike that was not developed.

Dates of Operation: The Outside Storage Area Unit in the North Klondike Undeveloped Land Sub-Area was used from about 1957 to 1993.

The North Klondike Undeveloped Land Unit was in use in the mid 1930s.

Processes: The Outside Storage Area Unit in the North Klondike Undeveloped Land Sub-Area was used for vehicle storage.

Earth moving operations in the early 1930s are suspected in the North Klondike Undeveloped Land Unit. Fill Material was reportedly removed from this area to help level low-lying areas of the airfield.

Specific Contaminants of Concern: Gasoline, diesel fuels and cleaning solvents may have been used in the Outside Storage Area Unit in the North Klondike Undeveloped Land Sub-Area.

The presence of automotive and diesel fuels from earth-moving equipment is suspected in the North Klondike Undeveloped Land Unit.

Area-Wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism in the Outside Storage Area Unit is infiltration due to a spillage or leakage, which would affect the underlying soil and groundwater. However, the potential for this to occur is low since mostly inert material was stored here (*i.e.* inoperable vehicles).

The likelihood for a release in the North Klondike Undeveloped Land Area Unit is also low since this area was not developed.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Due to the potential for a release associated with the North Klondike Undeveloped Land Area Unit, a subsurface investigation to determine the degree and extent of soil contamination was performed in February 1990. Prior to 1990, no investigation had reportedly been performed.

Various supplemental groundwater investigations have also been conducted in the North Klondike Undeveloped Land Area Unit. In both monitoring wells (NK-MW-01 and NK-MW-15) present in the Undeveloped Land Area Unit metals have been detected. Even though Barium, Iron, and Zinc have been detected, (no exceedances of any reporting criteria have been noted). For a more detailed account of these sampling events refer to *LEA Technical Memorandum 3 of Groundwater Sampling and Quality* dated March 30, 1998.

1990 Investigation (Westinghouse):

Description: In February 1990, one soil sample was collected during installation of monitoring well NW-MW-01 and was analyzed for VOCs and TCLP metals. Specific analyses performed are shown in Table 1.

Investigation Results: No VOCs were detected in the sample that was analyzed. Only Lead was reported over the detection limit (Westinghouse, 1990). Detects are shown on Table 2.

Data Evaluation and Conclusions: The concentrations of lead reported is representative of background concentrations encountered site-wide (F&O, 1994).

Since the Outside Storage Area Unit and the Undeveloped Land Area Unit had a low probability of a release, no further action is warranted.

One additional separate investigation was conducted in the Undeveloped Land Sub-Area (*Soil Piles*) and should be referred to independently.

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Table 3
SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: NK Undeveloped Land Area

	Location ID	NK-MW-01	NK-MW-01					
	Sample ID	CAS 1000015	CAS 1015030					
	Sample Date	02/12/1990	02/16/1990					
	Sample Time		:					
	Sample Depth	0.0' - 1.5'	1.5' - 3.0'					
	Laboratory	NETA	NETA					
	Lab. Number	NETA09001	NETA09011					
Constituent	Units							
Arsenic (TCLP)	mg/l		<0.100					
Barium (TCLP)	mg/l		<0.035					
Cadmium (TCLP)	mg/l		<0.004					
Chromium (TCLP)	mg/l		<0.050					
Lead (TCLP)	mg/l		0.120					
Mercury (TCLP)	mg/l		<0.0002					
Selenium (TCLP)	mg/l		<0.100					
Silver (TCLP)	mg/l		<0.009					
Benzene	µg/xx	<5						
Bromoform	µg/xx	<5						
Carbon Disulfide	µg/xx	<5						
Carbon Tetrachloride	µg/xx	<5						
Chlorobenzene	µg/xx	<5						
Chlorodibromomethane	µg/xx	<5						
Chloroethane	µg/xx	<5						
Chloroform	µg/xx	<5						
Dichlorobromomethane	µg/xx	<5						
Dichloroethane, 1, 1-	µg/xx	<5						
Dichloroethane, 1, 2-	µg/xx	<5						
Dichloroethylene, 1, 1-	µg/xx	<5						
Dichloroethylene, 1, 2-trans-	µg/xx	<5						
Dichloropropane, 1, 2-	µg/xx	<5						
Dichloropropylene, 1, 3-cis-	µg/xx	<5						
Dichloropropylene, 1, 3-trans-	µg/xx	<5						
Ethylbenzene	µg/xx	<5						
Hexanone, 2-	µg/xx	<5						
Methyl Bromide	µg/xx	<5						
Methyl Chloride	µg/xx	<5						

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Table 3

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**NORTH KLONDIKE UNDEVELOPED LAND LOCATION &
CONSTITUENTS DETECTED MAP**

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**UNIT SPECIFIC TECHNICAL MEMORANDUM: X-312/X-314 TEST STAND AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: North Klondike

SUB-AREA: X-312/X-314 Area

ENVIRONMENTAL UNIT: Test Stand X-312 and Test Stand X-314

Location: The X-312/X-314 Test Stand Area is located on the east side of the Perimeter Road and north of the Tie-Down Area (Drawing 1).

Description: Test Stand X-312 was an open test stand comprised of a blacktop test pad. The stand was provided with a flat roof overhead shelter and roll-up canvas curtains for weather protection. Controls and instrumentation required to operate the test engines and monitor its performance were in a wood frame-constructed control room located approximately 75 feet from the test stand. Presently, only the concrete foundation remains.

Test Stand X-314 was used for radial sound surveys. Instruments (microphones) were set up on the outside radius of the cleared area surrounding the test stand. Thirty foot high steel columns were anchored to a 30' by 40' concrete pad. Presently, only the foundation remains of Test Stand X-314. This unit was equipped with a septic tank and leach field.

Dates of Operation: Test Stand X-312 and X-314 were used from approximately 1957 until the stands were demolished in the early 1990s.

Processes: In Test Stand X-312 engine tests were conducted with different apparatus including, but not limited to: an exhaust silencer, a crosswind generator, a foreign object ingestion, portable microphones, an icing system, smoke testing, and strain gauge measurements.

Test Stand X-314 was an outdoor test facility designated for inlet and exhaust sound surveys, performance calibrations, crosswind testing, foreign object ingestion, and thermal distortion tests of the largest turbofan engines.

Specific Contaminants of Concern: The standard fuel used at Test Stand X-312 was JP-5; the standard fuel used at Test Stand X-314 was Jet A. Special fuels may have been required for certain tests conducted. Fuels such as JP-4, JP-5, and isooctane were may have been used. Cleaning fluids and solvents were likely used after the tests were completed.

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism for Test Stands X-312 and X-314 was potential spillage and/or leakage which could affect the underlying soil and groundwater; however, the likelihood for a spill in these areas was low because these units were mainly used for engine-testing operations.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Due to the potential for a release associated with the Test Stand X-314, a subsurface investigation to determine the degree and extent of soil and groundwater contamination was performed in June 1993. Prior to 1993, no previous investigation had been conducted.

1993 Investigation (M&E):

Description: Soil boring NK-SS-14 was conducted near a former fuel distribution line trench in the X-314 Area (Metcalf & Eddy, 1993). Using a post-hole digger and three-inch hand auger, a soil sample was collected just below the fuel distribution line. The pipe was encountered at approximately three feet below grade. The location of the soil sample is presented on Drawing 1.

Investigation Results: Specific analyses performed on the soil sample from the X-314 Area is presented in Table 1. Concentrations of detected constituents for this boring are presented in Table 2.

The soil sample from boring NK-SS-14 did not contain VOCs, SVOCs, or PCBs at concentrations above detection limits.

In the sample collected and analyzed, barium, beryllium, chromium, lead, nickel and zinc were detected.

Data Evaluation and Conclusions: The concentrations of metals reported is representative of background concentrations encountered site wide (F&O, 1994).

Since Test Stand X-312 and X-314 had a low probability of a release, no further action is warranted.

Two separate investigations were conducted in the X-312 / X-314 Area (*X-312 Tank Farm* and the *X-314 Septic System*) and should be referred to independently.

Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: Test Stand X-314

Page 1 of 1

Sample Information					Analysis Information									
Location ID	Sample ID	Sample Date	From (ft)	To (ft)	Class	Portable GC	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Extraction	Miscellaneous
NK-SS-14	01015061793	6/17/93			SS		x	x			x	X		
DRAFT														

Notes: 1. Legend: X - Analysed; at least one analyte over the detection limit; x - Analysed, no analytes in group over the detection limit
2. Printed on 04/01/98

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Table 3
SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Test Stand X-314

Page 1 of 4

	Location ID	NK-SS-14					
	Sample ID	01015061793					
	Sample Date	06/17/1993					
	Laboratory	ENS					
	Lab. Number	0291110001SA					
Constituent	Units						
Date Metals Analyzed	-	06/28/1993					
Date Organics Analyzed	-	06/23/1993					
Date PCBs Analyzed	-	06/28/1993					
Date Semi-volatile Organics Analyzed	-	06/25/1993					
Arsenic	mg/kg	<0.54					
Barium	mg/kg	27.8					
Beryllium	mg/kg	0.23					
Cadmium	mg/kg	<0.54					
Chromium (Total)	mg/kg	5.5					
Lead	mg/kg	3.6					
Mercury	mg/kg	<0.11					
Nickel	mg/kg	4.7					
Selenium	mg/kg	<0.54					
Silver	mg/kg	<1.1					
Zinc	mg/kg	13.8					
PCB 1016	µg/kg	<8.9					
PCB 1221	µg/kg	<8.9					
PCB 1232	µg/kg	<8.9					
PCB 1242	µg/kg	<8.9					
PCB 1248	µg/kg	<8.9					
PCB 1254	µg/kg	<8.9					
PCB 1260	µg/kg	<8.9					
Acenaphthene	µg/kg	<360					
Acenaphthylene	µg/kg	<360					
Anthracene	µg/kg	<360					
Benzo[a]anthracene	µg/kg	<360					
Benzo[a]pyrene	µg/kg	<360					
Benzo[b]fluoranthene	µg/kg	<360					
Benzo[ghi]perylene	µg/kg	<360					
Benzo[k]fluoranthene	µg/kg	<360					

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Table 3
SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Test Stand X-314

	Location ID	NK-SS-14					
	Sample ID	01015061793					
	Sample Date	06/17/1993					
	Laboratory	ENS					
	Lab. Number	0291110001SA					
Constituent	Units						
Bis(2-chloroethoxy)methane	µg/kg	<360					
Bis(2-chloroethyl)ether	µg/kg	<360					
Bis(2-ethylhexyl)phthalate	µg/kg	<360					
Bromophenyl Phenyl Ether,4-	µg/kg	<360					
Butyl Benzyl Phthalate	µg/kg	<360					
Carbazole	µg/kg	<360					
Chloroaniline,4-	µg/kg	<360					
Chloronaphthalene,2-	µg/kg	<360					
Chlorophenol,2-	µg/kg	<360					
Chlorophenyl Phenyl Ether,4-	µg/kg	<360					
Chrysene	µg/kg	<360					
Cresol,2-	µg/kg	<360					
Cresol,4-	µg/kg	<360					
Di-n-butyl Phthalate	µg/kg	<360					
Di-n-octyl Phthalate	µg/kg	<360					
Dibenzo[a,h]anthracene	µg/kg	<360					
Dibenzofuran	µg/kg	<360					
Dichlorobenzidine,3,3'-	µg/kg	<710					
Dichlorophenol,2,4-	µg/kg	<360					
Diethyl Phthalate	µg/kg	<360					
Dimethyl Phthalate	µg/kg	<360					
Dimethylphenol,2,4-	µg/kg	<360					
Dinitro-o-cresol,4,6-	µg/kg	<1700					
Dinitrophenol,2,4-	µg/kg	<1700					
Dinitrotoluene,2,4-	µg/kg	<360					
Dinitrotoluene,2,6-	µg/kg	<360					
Fluoranthene	µg/kg	<360					
Fluorene	µg/kg	<360					
Hexachlorobenzene	µg/kg	<360					
Hexachlorobutadiene	µg/kg	<360					

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Table 3
SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Test Stand X-314

Page 3 of 4

	Location ID	NK-SS-14					
	Sample ID	01015061793					
	Sample Date	06/17/1993					
	Laboratory	ENS					
	Lab. Number	0291110001SA					
Constituent	Units						
Hexachlorocyclopentadiene	µg/kg	<360					
Hexachloroethane	µg/kg	<360					
Indeno(1,2,3-cd)pyrene	µg/kg	<360					
Isophorone	µg/kg	<360					
Methylnaphthalene,2-	µg/kg	<360					
N-nitrosodi-n-propylamine	µg/kg	<360					
N-nitrosodiphenylamine	µg/kg	<360					
Naphthalene	µg/kg	<360					
Nitroaniline,2-	µg/kg	<1700					
Nitroaniline,3-	µg/kg	<1700					
Nitroaniline,4-	µg/kg	<1700					
Nitrobenzene	µg/kg	<360					
Nitrophenol,2-	µg/kg	<360					
Nitrophenol,4-	µg/kg	<1700					
Pentachlorophenol	µg/kg	<1700					
Phenanthrene	µg/kg	<360					
Phenol	µg/kg	<360					
Propane),2,2'-oxybis(2-chloro-	µg/kg	<360					
Pyrene	µg/kg	<360					
Trichlorobenzene,1,2,4-	µg/kg	<360					
Trichlorophenol,2,4,5-	µg/kg	<1700					
Trichlorophenol,2,4,6-	µg/kg	<360					
Acetone	µg/kg	<11					
Benzene	µg/kg	<5.4					
Bromoform	µg/kg	<5.4					
Carbon Disulfide	µg/kg	<5.4					
Carbon Tetrachloride	µg/kg	<5.4					
Chlorobenzene	µg/kg	<5.4					
Chlorodibromomethane	µg/kg	<5.4					
Chloroethane	µg/kg	<11					

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Table 3
SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: Test Stand X-314

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	Location ID	NK-SS-14					
	Sample ID	01015061793					
	Sample Date	06/17/1993					
	Laboratory	ENS					
	Lab. Number	0291110001SA					
Constituent	Units						
Chloroform	µg/kg	<5.4					
Chlorotoluene,p-	µg/kg	<360					
Dichlorobenzene,1,2-	µg/kg	<360					
Dichlorobenzene,1,3-	µg/kg	<360					
Dichlorobenzene,1,4-	µg/kg	<360					
Dichlorobromomethane	µg/kg	<5.4					
Dichloroethane,1,1-	µg/kg	<5.4					
Dichloroethane,1,2-	µg/kg	<5.4					
Dichloroethylene,1,1-	µg/kg	<5.4					
Dichloroethylene,1,2-	µg/kg	<5.4					
Dichloropropane,1,2-	µg/kg	<5.4					
Dichloropropylene,1,3-cis-	µg/kg	<5.4					
Dichloropropylene,1,3-trans-	µg/kg	<5.4					
Ethylbenzene	µg/kg	<5.4					
Hexanone,2-	µg/kg	<11					
Methyl Bromide	µg/kg	<11					
Methyl Chloride	µg/kg	<11					
Methyl Ethyl Ketone	µg/kg	<11					
Methyl-2-pentanone,4-	µg/kg	<11					
Methylene Chloride	µg/kg	<5.4					
Styrene	µg/kg	<5.4					
Tetrachloroethane,1,1,2,2-	µg/kg	<5.4					
Tetrachloroethylene	µg/kg	<5.4					
Toluene	µg/kg	<5.4					
Trichloroethane,1,1,1-	µg/kg	<5.4					
Trichloroethane,1,1,2-	µg/kg	<5.4					
Trichloroethylene	µg/kg	<5.4					
Vinyl Acetate	µg/kg	<11					
Vinyl Chloride	µg/kg	<11					
Xylenes (Total)	µg/kg	<5.4					

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**X-312 / X -314 AREA LOCATION & CONSTITUENTS
DETECTED MAP**

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**SUB-AREA SPECIFIC TECHNICAL MEMORANDUM: X-401 AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: North Klondike

SUB-AREA: X-401

ENVIRONMENTAL UNITS: Test Cell X-401, Test Cell X-402, Test Cell X-403, Equipment Shed, and the Pavilion

Location: These Environmental Units are located as follows: Test Cells X-401, X-402, X-403 - within building east of area access road; Equipment Shed - at east end of area access road; Pavilion - on west side of area access road south of building. These units are shown on Drawing 1.

Description: The main building which housed Test Cells X-401, X-402, and X-403 had a concrete floor with two rooms and corrugated steel walls. The northern room contained the test cells and was 20.0' x 15.0'; the southern room contained the control room and was 12.0' x 15.0'. The test cells were equipped with an exhaust duct and heat exchanger. Adjoining the Test Cells, a Spencer Turbo Compressor (Model No. 2575H, S.N. 29296) was housed in a corrugated steel and wood frame enclosure. The compressor outlet lead into the Test Cells, and apparently provided the required air for engine testing. Presently, only the foundation remains.

The Equipment Shed was an 8.0' x 12.0' wooden structure on a concrete slab floor. The conduit and an electrical service junction box rose from the floor in the southwest corner of the former shed. Presently, only the concrete foundation remains.

The Pavilion consisted of an 8.0' x 17.0' frame structure with a corrugated metal roof. The floor was comprised of steel grating placed over a concrete block support. Two copper tubing fuel lines connected the test cells/control room to the Pavilion, following a utility trestle which passed over the entrance drive to the control room. An above-ground storage tank was located in this area.

Dates of Operation: Test Cells X-401, X-402, and X-403, the Equipment Shed, and the Pavilion were used from approximately 1957 to 1993.

Processes: Test Cells X-401, X-402, and X-403 were used for the testing of engines.

The Equipment Shed was used for equipment storage.

The Pavilion was used for fuel storage in an above-ground storage tank.

Specific Contaminants of Concern: The Test Cells mainly used jet fuels and cleaning solvents.

The Equipment Shed and the Pavilion were used for storage of jet fuels and cleaning solvents.

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism for Test Cells X-401, X-402, and X-403, and the Equipment Shed is potential spillage and/or leakage which could affect the underlying soil and groundwater; however, the likelihood for a spill in these areas was low because these units were mainly used for engine-testing operations. Furthermore, any spill inside the building would most likely have been contained within the building.

The most likely release mechanism for the Pavilion was potential spillage and/or leakage from storage containers (i.e. aboveground tank) which could affect the underlying soil and groundwater. Similarly, the likelihood of a release is relatively low in this area.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Since the likelihood of a spill is low no further investigation is warranted for these environmental units.

Three separate investigations were conducted in the X-401 Area (*Fire Training Area "C"*, *Drywells*, and the *Locker Room Septic System*) and should be referred to independently.

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X-401 AREA LOCATION MAP

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UNIT SPECIFIC TECHNICAL MEMORANDUM: X-407 AREA
PRATT & WHITNEY, EAST HARTFORD

AREA: North Klondike

SUB-AREA: X-407

ENVIRONMENTAL UNITS: Test Cell X-404, Test Cell X-405, Test Cell X-406, Test Cell X-407, Test Cell X-408, X-408 Test Rig Room, Test Cell X-409, Compressor Building, North Klondike Pump House

Location: In the North Klondike (Suntan) Area; third road north on the north access road, from Perimeter Road (Drawing 1). The respective environmental units are located as follows: Test Cells X-404, X-405, X-406, and X-407 - within northernmost building; X-408 -on west side of Access Road; X-409 - within westernmost building; Compressor building - east of Test Cell X-409; North Klondike Pump House -north of main access road, western side of third road north.

Description: The main building which housed Test Cells X-404, X-405, X-406, and X-407 was approximately 20'x40' and was constructed of metal and concrete.

Test Cell X-408 was approximately 11.5' x 19.5' which was concrete floored and roofed with corrugated metal.

The X-408 Test Rig Room was approximately 15' x 30' which was concrete floored and constructed of corrugated metal.

The compressor building was approximately 27.25' x 11.25' and constructed of cinder block walls with a corrugated aluminum roof.

The North Klondike Pump House was a 12' x 12' building constructed of concrete block.

Presently, only the foundations remain for all of these structures.

Dates of Operation: Test Cells X-404, X-405, X-406, X-407, X-408, X-408 Test Rig Room, X-409, and the Compressor Building were used from approximately 1957 to 1993.

The North Klondike Pump House was used from approximately 1957 to 1993.

Processes: Test Cells X-404, X-405, X-406, X-407, X-408, X-409, and the X-408 Test Rig Room were used for the testing of engines.

The compressor building was used to generate pressurized air for engine tests.

The North Klondike Pump House was a booster pump location for water supply.

Specific Contaminants of Concern: The Test Cells mainly used jet fuels and cleaning solvents. The compressor building may have used oils containing PCBs.

The North Klondike Pump House may have contained lubricating oils and jet fuels.

Area-Wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted

Potential Release Mechanism: The most likely release mechanism for Test Cells X-404, X-405, X-406, X-407, X-408, X-409, the X-408 Test Rig Room, the Compressor Building, and the North Klondike Pump House is potential spillage and or leakage which could affect the underlying soil and groundwater; however, the likelihood for a spill was low since it would have most likely occurred within each of the aforementioned buildings.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Due to the low likelihood for a spill no further investigation is warranted of the above mentioned environmental units in this area. A separate environmental assessment of the former PCB Storage Area (*X-407 PCB Storage Building*) was conducted independently.

DRAFT

**US EPA New England
RCRA Document Management System (RDMS)
Image Target Sheet**

RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-9

Document Title: DRAFT, UNIT-SPECIFIC TECHNICAL
MEMORANDA, SUMMARY SITE INVESTIGATION AND
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VOLUME 1

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Comments:

X-407 AREA LOCATION MAP

* Please Contact the EPA New England RCRA Records Center to View This Document *

UNIT SPECIFIC TECHNICAL MEMORANDUM: X-410 AREA
PRATT & WHITNEY, EAST HARTFORD

AREA: North Klondike

SUB-AREA: X-410 Area

ENVIRONMENTAL UNIT: Storage Room X-442 (Originally X-196A), Control Room X-196, X-410 (Originally X-196A), X-411 (Originally X-196A), Control Room X-411, Compressor Room X-411, X-412 (Originally X-196B), Storage and Maintenance Building

Location: North Klondike (Suntan) Area, second road south on main access road, from Perimeter Road (Drawing 1).

Description: The approximate dimensions of these units are:

Storage Room X-442 - 11.5' x 13.5' building

Control Room X-106 - 10' x 7' building

X-410 - 14' x 8' open-ended room with a floor drain, which discharged via a 4-inch pipe to a drainage swale to the south

X-411 - 14' x 25' room

Control Room X-411 - 13' x 29' room

Compressor Room X-411 - 20' x 23' room with two floor drains which possibly discharged to a drainage swale to the south

X-412 - 19' x 21' room

Presently only the foundations remain for all of the units in this area.

Dates of Operation: All units except the Storage and Maintenance Building in the X-410 Area started operation around 1957. The date the Storage and Maintenance Building was built is unknown, but it is estimated to be in the early 1960s. All units were demolished in 1993, except for the Control Room X-411 which was decommissioned in 1968.

Processes: The Storage Room X-442, Control Room X-196, X-410, Control Room X-411 were used for testing of jet engines.

X-411 was used as a testing facility for small combustion components such as gas turbine main burners.

The Compressor Room X-411 supplied compressed air to the test stands.

X-412 was a fire safety standards test facility for investigating fire resistance of fuel control and gearbox components.

Compressed gasses (oxygen and acetylene) along with batteries and lighting ballasts were stored in the Storage and Maintenance Building. Typical maintenance activities included welding, torch cutting, and vehicle maintenance.

Specific Contaminants of Concern: Control Room X-442, Control Room X-196, and Control Room X-411 - Jet fuels and cleaning solvents

X-410 and X-411 - Jet fuels and methanol fuels

Compressor Room X-411 - Jet fuels, cleaning solvents, and lubricating oils

X-412 - Compressed air, jet fuels (JP-4 and JP-5), and propane for heating

Storage and Maintenance Building - Batteries and light ballasts potentially containing lead, mercury, cadmium, and PCBs.

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism at all of these units is potential spillage and/or leakage which could affect the underlying soil and groundwater; however, the likelihood for spill is low and would most likely have occurred within the building.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Due to the potential for a release associated with these units, a subsurface investigation to determine the degree and extent of soil and groundwater contamination was performed in 1993. Prior to 1993, four soil gas probes were located around the Storage and Maintenance Building during a site-wide soil gas study conducted by Target Environmental Services in December of 1989.

1993 Investigation:

Description: On June 3, 1993, a soil sample was collected from Boring NK-SS-06 and submitted for laboratory analyses for VOCs and PCBs (Metcalf & Eddy, 1993). The location of the soil boring is presented on Drawing 1. Specific analyses performed on the sample from the X-410 Area is presented on Table 1.

On July 7, 1993, a soil sample was collected from Boring NK-SS-11 and submitted for laboratory analysis for beryllium. This boring was conducted as part of an investigation of the X-448 Area (originally X-194) which lies to the east of the X-410 Area.

Investigation Results: In the two samples collected and analyzed, only beryllium was detected in one of the samples (NK-SS-11) at 0.31 mg/kg which exceeds the DEP-proposed reference value (DEP, 1994). This concentration is typical of the levels encountered throughout the area. No other metals, VOCs, SVOCs, PCBs, or pesticides were detected in these samples. Concentrations of all detected constituents for the X-410 Area is presented in Table 2.

Data Evaluation and Conclusions: The low concentration of beryllium detected in sample NK-SS-11 may be associated with operations at the nearby X-194 (X-448) Area known as the Beryllium Area, rather than the units in this X-410 Area. As a result, no further action is warranted in these areas.

Separate investigations were conducted on three other units in this sub-area (*X-410 Drain Pipe, Maintenance and Storage Septic System, and X-410 Oil Rack*) and are discussed independently

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Table 1
SUMMARY OF SAMPLING AND ANALYTICAL INFORMATION
P&W East Hartford: X-410 Areas

Page 1 of 1

Sample Information						Analysis Information								
Location ID	Sample ID	Sample Date	From (ft)	To (ft)	Class	Portable GC	Volatile Organics	Semivolatile Organics	Herbicides	Pesticides	PCBs	Metals	Extraction	Miscellaneous
NK-SS-06	01035060393	6/ 3/93			SS		x			x	x			
NK-SS-11	01115070793	7/ 7/93			SS							X		
DRAFT														

Notes: 1. Legend: X - Analysed; at least one analyte over the detection limit; x - Analysed, no analytes in group over the detection limit
2. Printed on 03/31/98

Page 1 of 1

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SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: X-410 Areas

Location Identifier NK-SS-06

Location Identifier	NK-SS-06					
Sample Date	6/ 3/93					
Sample Identifier	01035060393					
						Soil Sample
Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
PCB 1016	ND<87	µg/kg		ENS	0289520008SA	PCBs
PCB 1221	ND<87	µg/kg		ENS	0289520008SA	PCBs
PCB 1232	ND<87	µg/kg		ENS	0289520008SA	PCBs
PCB 1242	ND<87	µg/kg		ENS	0289520008SA	PCBs
PCB 1248	ND<87	µg/kg		ENS	0289520008SA	PCBs
PCB 1254	ND<170	µg/kg		ENS	0289520008SA	PCBs
PCB 1260	ND<170	µg/kg		ENS	0289520008SA	PCBs
Aldrin	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
BHC.alpha-	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
BHC.beta-	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
BHC.delta-	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
BHC.gamma-	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
Chlordane	ND<87	µg/kg		ENS	0289520008SA	Pesticides
DDD.p.p'-	ND<17	µg/kg		ENS	0289520008SA	Pesticides
DDE.p.p'-	ND<17	µg/kg		ENS	0289520008SA	Pesticides
DDT.p.p'-	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Dieldrin	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Endosulfan I	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
Endosulfan II	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Endosulfan Sulfate	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Endrin	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Endrin Ketone	ND<17	µg/kg		ENS	0289520008SA	Pesticides
Heptachlor	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
Heptachlor Epoxide	ND<8.7	µg/kg		ENS	0289520008SA	Pesticides
Methoxychlor	ND<87	µg/kg		ENS	0289520008SA	Pesticides
Toxaphene	ND<170	µg/kg		ENS	0289520008SA	Pesticides
Acetone	ND<11	µg/kg		ENS	0289520008SA	Volatile Organics
Benzene	ND<5.4	µg/kg		ENS	0289520008SA	Volatile Organics
Bromoform	ND<5.4	µg/kg		ENS	0289520008SA	Volatile Organics
Carbon Disulfide	ND<5.4	µg/kg		ENS	0289520008SA	Volatile Organics

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: X-410 Areas

Location Identifier NK-SS-06

Carbon Tetrachloride	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Chlorobenzene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Chlorodibromomethane	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Chloroethane	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Chloroform	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichlorobromomethane	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloroethane, 1,1-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloroethane, 1,2-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloroethylene, 1,1-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloroethylene, 1,2-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloropropane, 1,2-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloropropylene, 1,3-cis-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Dichloropropylene, 1,3-trans-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Ethylbenzene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Hexanone, 2-	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Methyl Bromide	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Methyl Chloride	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Methyl Ethyl Ketone	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Methylene Chloride	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Methyl-2-pentanone, 4-	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Styrene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Tetrachloroethane, 1,1,2,2-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Tetrachloroethylene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Toluene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Trichloroethane, 1,1,1-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Trichloroethane, 1,1,2-	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Trichloroethylene	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics
Vinyl Acetate	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Vinyl Chloride	ND<11	µg/kg	ENS	0289520008SA	Volatile Organics
Xylenes (Total)	ND<5.4	µg/kg	ENS	0289520008SA	Volatile Organics

SUMMARY OF ANALYTICAL RESULTS - SOIL
P&W East Hartford: X-410 Areas

Location Identifier NK-SS-11

Location Identifier	NK-SS-11					
Sample Date	7/ 7/93					
Sample Identifier	01115070793					
						Soil Sample
Chemical Name	Concentration	Units	Flags	Lab.	Lab. Number	Chemical Class
Beryllium	0.31	mg/kg		ENS	0293190004SA	Metals

DRAFT

**US EPA New England
RCRA Document Management System (RDMS)
Image Target Sheet**

RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-9

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VOLUME 1

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Comments:

X-410 AREA LOCATION & CONSTITUENTS DETECTED
MAP

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UNIT SPECIFIC TECHNICAL MEMORANDUM: X-415 AREA
PRATT & WHITNEY, EAST HARTFORD

AREA: North Klondike

SUB-AREA: X-415 Area

ENVIRONMENTAL UNIT: X-415 Combustion Lab (Originally X-195D), X-416, X-417, X-419 and X-420, X-426 and X-427, X-449, X-450, InfraRed Laboratory X-450, Boiler Room, X-451 (Originally X-190)

Location: North Klondike (Suntan Area), fourth road north on main access road, from Perimeter Road (Drawing 1).

Description: The dimensions of these units are as follows: X-415 Combustion Lab - 26.5' x 32' room; X-416 - 12.5' x 20' room; X-417 - 12.5' x 20' room; X-419 and X-420 - 14' x 31.5' room; X-426 and X-427 - 16' x 36' room; X-449 - 32' x 34.5' room; X-450 - 30' x 50' room; Infra Red Laboratory X-450 - 11' x 122.5' room; Boiler room - 10.75' x 17.75' room; X-451 - 12'x26' room. Presently only the concrete foundations of the above structures remain.

The boiler room included an oil-fired boiler, an electric water heater, and associated piping. The boiler and much of the piping was coated with insulation. The oil tank for the boiler was reportedly located west of test cell X-450 (Metcalf & Eddy, 1993).

The 1993 investigation of this area performed by Metcalf & Eddy indicated the presence of a roll of insulation (insulating material was not specified) and similar insulation on a pipe in the control room for X-451. Also noted in the boiler area was a small transformer and a square steel vessel. Adjoining the cell to the south is a concrete pad where a piston compressor used to be located (Metcalf & Eddy, 1993).

Dates of Operation: All units in the X-415 Area started operation around 1957. The X-415 Combustion Lab was deactivated on January 9, 1983, while for the other units no exact dates are known. All units were demolished in 1993.

Processes: Jet engine testing was performed in all units with the exception of the X-415 Combustion Lab and the Boiler Room.

X-415 was a general purpose, air-conditioned laboratory designed to handle small scale "Bunsen burner" sized combustion experiments.

An oil-fired boiler operated in the Boiler Room.

Specific Contaminants of Concern: Jet fuels and cleaning solvents, with the exception of the Boiler Room where fuel oils were used.

Area-Wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated

biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism is potential spillage and/or leakage onto the pavement which could affect the underlying soil and groundwater. The potential impact to the environment from a release inside any of the buildings is relatively low, since it most likely would have been contained within the respective building.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Since any release would have most likely been contained within the buildings, no further action is warranted in these units.

Two additional separate investigations were conducted in the X-415 Sub-Area (*X-415 Septic System and Drywell* and the *X-415 Boiler Room AST*) and should be referred to independently.

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**US EPA New England
RCRA Document Management System (RDMS)
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RDMS Document ID# 1125

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Phase Classification: R-9

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X-415 AREA LOCATION MAP

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**UNIT SPECIFIC TECHNICAL MEMORANDUM: X-430 AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: North Klondike

SUB-AREA: X-430 Area

ENVIRONMENTAL UNITS: Test Cell X-430 (originally X-191D), Test Cell X-431 (originally X-191C), Test Cell X-432 (originally X-191B), Test Cell X-433 (originally X-191A), Test Cell X-434, Test Cell X-435 (originally X-191C), Test Cell X-436

Location: North Klondike (Suntan) Area, fifth road north on main access road, from Perimeter Road (Drawing 1).

Description: The dimensions of these units are given below:

Test Cell X-430 - 16' x 20' room

Test Cell X-431 - 10.25' x 20' room

Test Cell X-432 - 16' x 20' room

Test Cell X-433 - 16' x 20' room

Test Cell X-434 - 15.5' x 15' room

Test Cell X-435 - 10.2' x 20' room

Test Cell X-436 - 15.5' x 15' room

The X-430 control room had a tile floor. Presently, only the foundation remains for all of these structures.

Dates of Operation: Approximately 1957 to 1993.

Processes: Jet engine testing.

Specific Contaminants of Concern: Jet fuels and cleaning solvents.

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanisms: The most likely release mechanism for Test Cells X-430, X-431, X-432, X-433, X-434, X-435, and X-436 is potential spillage and or leakage which could affect the underlying soil and groundwater; however, the potential impact to the environment from a release inside these Cells is relatively low, since any contaminant spills and/or leakage (containing VOCs, SVOCs, PCBs, Metals, and TPH) would most likely have been contained within the building.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Since the likelihood of a spill is low no further investigation is warranted for these environmental units. Two separate investigations were conducted in the X-430 Area (*X-430 Stainless Steel Tank* and *X-430 Above Ground Storage Tank*) and should be referred to independently.

DRAFT

US EPA New England
RCRA Document Management System (RDMS)
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Facility Name: PRATT & WHITNEY (MAIN STREET)

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Comments:

X-430 AREA LOCATION MAP

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**UNIT SPECIFIC TECHNICAL MEMORANDUM: UNDEVELOPED LAND:
SOUTH KLONDIKE AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: South Klondike

SUB-AREA: Undeveloped Land Area

ENVIRONMENTAL UNIT: Undeveloped Land

Location: East of the developed portion of the South Klondike (Drawing 1).

Description: 47 wooded acres.

Dates of Operation: Approximately 1929 to 1995.

Processes: No reported use.

Specific Contaminants of Concern: No contaminants are believed to be present.

Area-Wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism is potential spillage which could affect the underlying soil and groundwater. However, the likelihood for a spill is low since this unit was not developed.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Various supplemental groundwater investigations have also been conducted in the South Klondike Undeveloped Land Area. Out of the six monitoring wells (SK-MW-01, SK-MW-02, SK-MW-03, SK-MW-04, SK-MW-09, and SK-MW-10) in the Undeveloped Land Area one VOC, TPH, and four metals have been detected. For a more detailed account of these sampling events refer to LEA *Technical Memorandum 3 of Groundwater Sampling and Quality* dated March 30, 1998.

Since the South Klondike Undeveloped Land Unit had a low probability of a release, no further subsurface soil investigations are warranted.

One additional separate investigation was conducted in the South Klondike Undeveloped Land Sub-Area (*Debris Piles*) and should be referred to independently.

**US EPA New England
RCRA Document Management System (RDMS)
Image Target Sheet**

RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

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Comments:

**SOUTH KLONDIKE UNDEVELOPED LAND LOCATION
MAP**

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**UNIT SPECIFIC TECHNICAL MEMORANDUM: X-307 AREA
PRATT & WHITNEY, EAST HARTFORD**

AREA: South Klondike

SUB-AREA: X-307 Area

ENVIRONMENTAL UNIT: Test Stand X-307.

Location: Formerly located along the Airport Perimeter Road south of the turn-off leading to the Cryogenics Building and the Virgin Products Storage Area (Drawing 1).

Description: Test Stand X-307 consisted of an open stand with a transit roof and side curtains for weather protection. Thirty-foot high rigid steel frames were anchored to a 30' by 40' concrete pad. There was a Control House located 30 feet from the test stand. This was constructed of reinforced concrete mostly below ground level. Presently, only the foundation remains for these two structures.

Dates of Operation: The original X-307 Test Stand and Control House began operation around 1957. The redesigned X-307 Test Stand and Control House were constructed in 1967 and demolished in the early 1990s.

Processes: Sound and performance studies for the JT8D engine.

Specific Contaminants of Concern: Jet A fuel.

Area-Wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: A possible release mechanism is potential spillage which could have affected the underlying soil and groundwater. The likelihood for a spill in Test Stand X-307 was low, because fuel for engine tests was only used on an "as-needed" basis. Similarly, the likelihood for spills from the Control House affecting underlying soil or groundwater was low, since it would have been contained within the building.

INVESTIGATION AND REMEDIATION ACTIVITIES:

Since the likelihood of a spill in the Test Stand X-307 and the Control House is relatively low, no further action is warranted in these units.

Two additional separate investigations were conducted in the X-307 Sub-Area (*X-307 Septic System* and the *X-307 Rubble Piles*) and should be referred to independently.

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RCRA Document Management System (RDMS)
Image Target Sheet

RDMS Document ID# 1125

Facility Name: PRATT & WHITNEY (MAIN STREET)

Phase Classification: R-9

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X-307 AREA LOCATION MAP

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North Airport:

The Rentschler Airport Area

North Klondike:

Explosives Storage Area

M.E.R.L. Area

X-312 / X-314 Area

X-401 Area

X-407 Area

X-410 Area

X-430 Area

South Klondike:

Tie-Down Area

UNIT SPECIFIC TECHNICAL MEMORANDUM: TIE-DOWN AREA PRATT & WHITNEY, EAST HARTFORD

AREA: South Klondike

SUB-AREA: Tie-Down Area

ENVIRONMENTAL UNIT: Test Stand X-309

Location: The Tie-Down Area is located immediately to the East of Perimeter Road (Drawing 1).

Description: The Test Stand X-309 consisted of an overhead steel beam supporting structure with a overhead flat roof shelter 18' by 32', approximately 18 feet above the ground. The engine exhaust area was covered with one and one-half inch trap rock held down with heavy wire screen to prevent erosion.

Dates of Operation: Test Stand X-309 was operated from about 1957 until it was dismantled in June 1984.

Processes: The Test Stand X-309 was used for testing of jet engines.

Specific Contaminants of Concern: Test Stand X-309 used JP-5 fuel and special fuels as required by test.

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The most likely release mechanism in the Test Stand X-309 Area is potential spillage and/or leakage which could affect the underlying soil and groundwater. Since fuel was used on an "as-needed" basis the potential for leaks and/or spills was minimized.

INVESTIGATION AND REMEDIATION

No further investigation is warranted for Test Stand X-309 due to the low likelihood for a release.

Two separate investigations were conducted in the Tie-Down Area (*Fire Training Area and B-24 Test Stand* and the *USTs and ASTs*) and should be referred to independently.

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TIE-DOWN AREA LOCATION MAP

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UNIT SPECIFIC TECHNICAL MEMORANDUM: EXPLOSIVES STORAGE AREA PRATT & WHITNEY, EAST HARTFORD

AREA: North Klondike

SUB-AREA: Explosives Storage Area

ENVIRONMENTAL UNIT: Outside Storage Area

Location: North Klondike (Suntan) Area, fifth road south on main access road, from Perimeter Road (Drawing 1).

Description: No exact dimensions are available for the Outside Storage Area.

Dates of Operation: The Outside Storage Area operated from about 1957 to 1993.

Processes: The outside storage area was used for general storage.

Specific Contaminants of Concern: Jet fuels and cleaning solvents

Area-wide Classes of Contaminants: Volatile organic compounds (VOCs), Semi-volatile organic compounds (SVOCs), the RCRA 8 metals plus nickel and zinc, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons (TPH). No information relating to the use of items containing all of these contaminants was found. This larger list of possible contaminants was included as an example of constituents that may have been used elsewhere at this Pratt & Whitney facility. Analysis of these constituents was conducted in order to be as comprehensive as possible in the investigation that was conducted.

Potential Release Mechanism: The potential for a release (infiltration) exists for the Outside Storage Area only if chemicals and explosives have been stored within this unit.

INVESTIGATION AND REMEDIATION ACTIVITIES:

No further investigation is recommended in the Outside Storage Area, since the items that were stored there were generally inert substance (*i.e.* concrete ballards, wooden pallets, fencing, and other miscellaneous. items).

Five separate investigations were conducted in the Explosives Storage Area (*Fill Area, Underground Storage Tank, Explosives Storage Building, Outside Chemical Storage Shed, and the Chemical Storage Building*) and should be referred to independently.

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EXPLOSIVE STORAGE AREA LOCATION MAP

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